

PROJECT NAME: Animal House , IIIM Jammu						
Name of Works: BOQ of Fire Fighting Works						
Item No	Description Of Item	Unit	Total Qty.	Rate in figures (in Rs.)	Rate in words (in Rupees)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
1.00	FIRE FIGHTING SYSTEM					
1.01	Providing, fixing joiting and testing of Heavy (class - C) G.I. pipes as per relevant IS :1239/4736 with special accessories like tees, elbow, gesket, flanges, flanged joints, rubber insertion nuts and bolts including earth work excavatin and trenching, wrapping pipekot 4mm thick 500mm width tar based plymaric corrosion protection tape or equivalent suitable to GI/ MS pipe line including applying uniform coat of cold pipekot primer complete 1 m below the ground level, refilling in layers not exeeding 20 cm in depth consolidated each deposited layer by ramming & watering complete in all respect as pe IS : 1022 (Under ground)					
a)	150 mm dia G.I. Pipe with flange joints (5.4 mm wall thickness)	Metre	30.0			
b)	80 mm dia G.I. Pipe with flange joints	Metre	10.0			
1.02	Heavy class G.I. pipes conforming to IS with accessories like tees, elbows, flanged joints, rubber insertion, nuts, bolts or welded joints including fixing the pipe with suitable flat iron strip clamps/brackets, structural members, dash fastener , cutting hole and chases in walls, floor, R.C.C. slab etc. and making good the same, including painting pipes and fittings with a primer coat of steel primer and two coats of postal red enamel paint etc. complete as required. (All the fitting i.e. tee /elbow, Valve shall be joint the pumps will flanged joints)					

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1	2	3	4	5	6	7
b)	150 mm dia (with Flanged joints)	Metre	60.0			
d)	80 mm dia	Metre	20.0			
1.03	Providing and fixing Single headed hydrants flanged inlet with 63 mm female instantaneous outlet of gunmetal complete with male blank caps, chains conforming to IS:5290 type A with stainless steel orifice plate (if required) to keep the pressure not more than 3.5 kg/sq.cm at any point.	Each	8.0			
1.04	Providing 63mm dia 15 m long reinforced rubber lined hose pipe conforming to IS: 636-1992 Part-II with gunmetal male & female coupling wire wound with pipe as required.	Each	12.0			
1.05	Providing and fixing 63mm dia 15 m long canvas hose pipe complete with gunmetal male & female coupling wire wound with the pipe The pipe shall confirm to IS: 4927.	Each	4.0			
1.06	Providing and fixing Gunmetal branch pipe with 20mm dia nozzle conforming to IS:903. suitable for installation connections to hose coupling etc. as required.	Each	8.0			

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1	2	3	4	5	6	7
1.07	Providing and fixing Four way fire brigade connection housed in steel cabinet of size 900mm x 750mm x 400mm fabricated from 1.5mm thick M.S. sheet having lockable arrangement, openable glazed door with 4mm thick glass, including painting a coat of steel primer and two coats of postal red enamel paint, with necessary supports for the cabinet etc. with 150 mm dia. non return and butterfly valves complete in all respects.					
a)	4 Way - 150mm dia	Each	1.0			
1.08	Providing and fixing Set of "Siamese" quadruplet instantaneous fire brigade connections comprising of two gunmetal instantaneous male inlet coupling 63mm dia with plug and cap, chain bends, tees etc for inlet to the static tank.	Each	1.0			
1.09	Providing & Fixing 150 mm dia, 4 way suction coupling for firebrigade withdrawal of water from the fire tank	Each	1.0			
1.10	Providing and fixing glazed door shutter and frame for Fire hose cabinet with hold fasts (frame fabricated from 40 x 40 x 5mm and shutter from angle) 2100 mm high x 1200 mm wide x 600mm deep with locking arrangement, 4mm thick glass with M.S. flats including all accessories, painting with one coat of steel primer and two coats of postal red enamel paint complete as per drawing and as directed. The words " hose cabinet" to be painted on the box complete in all respects.	Each	6.0			

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1	2	3	4	5	6	7
1.11	Providing and fixing Weather proof standard stand post type hose cabinet (900mm x 750 mm x 400 mm) out door type made of 1.5mm thick M.S. sheet having central opening glazed door with 4mm thick glass suitable for accommodating hydrants, 2 Nos. canvas hose pipe and branch pipe including necessary locking arrangements, painting one coat of primer and two coats of postal red enamel paint.. The shutters are to be lockable type. The words “hose cabinet” to be painted on the box.	Each	2.0			
1.12	Providing and fixing cast iron body IS: 210 FG 220 and double flange gear simple operation type butterfly valve conforming to IS: 13095 with SS304 disc and shaft NITNLE rubber replaceable seat of the following size complete with bolts, nuts, washers and rubber insertions as per specification.					
a)	150 mm dia	Each	6.0			
b)	80 mm dia	Each	2.0			
1.13	Supplying, testing, installation & commissioning of pressure switches for pumps including necessary wiring upto the control panel.	Each	2.0			

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1	2	3	4	5	6	7
1.14	Constructing masonry chamber 90x90x100 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 fine sand) for sluice valve, with C.I. surface box 100mm top diameter, 160mm bottom diameter and 180mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design.					
	with F.P.S. bricks	Each	2.0			
1.15	Supplying and Fixing First Aid Hose Reel , wall mounting swinging type complete with drum & bracket of MS construction, spray painted in Post office Red, confirming to IS 884/1995 with upto date amendments, complete with the following as required.					
	36 Meter long 20 mm dia water hose Thermoplastic (Textile reinforced) Type - 2 as per IS : 12585					
	20 mm dia gun metal ball valve & nozzle.					
	Drum and brackets for fixing the equipments on wall.					
	Connection from riser with stop valve (gun metal) & M.S. Pipe	Each	6.0			

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1	2	3	4	5	6	7
1.16	Providing and fixing C.I. sluice valves (With cap) of approved quality complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) Class II					
a)	150 mm dia	Each	2.0			
1.17	Supply, Installation, Testing and Commissioning of 100 mm dia Bourden type, Stainless Steel dial type Pressure Gauge including brass isolation valve and siphon pipe having caliberation of 0 - 16 Kg / cm ² .	Each	8.0			
1.18	Supplying and Fixing of Fire Man's axe with heavy insulated rubber as per standard conforming to IS 926	Each	6.0			
1.19	Supplying and Fixing vane type waterflow switch with contacts suitable for installation on 50 mm to 150 mm dia pipeline for a service pressure upto 20 Kg/sq.cm.	Each	2.0			
1.20	Fabricating, Supplying, Installation, Testing and Commissioning Air Vessel of continuous welded construction with flanged discharge header on the top of each riser fabricated out of 10 mm thick dished ends and 8 mm thick MS sheet, Air Release Valve complete with suitable drain arrangement with 25 mm dia gun metal wheel valve complete with all accessories etc. as required of the following sizes					
a)	1.2 Metre high and 250 mm dia	Each	2.0			

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1	2	3	4	5	6	7
1.21	Supply, Installation, Testing and Commissioning External Yard Hydrant Stand Post comprising of GI pipe 80 mm dia (heavy duty C class) from existing ringmain to about 1 meter above ground level and Single Headed Yard Hydrant Valve with 80 mm dia flanged inlet, instantaneous gunmetal coupling of 63 mm dia with cast iron wheel ISI marked, conforming to IS : 5290 (Type A), with ABS cap and chain etc.complete with all accessroies as required.	Each	2.0			
1.22	Providing and placing on terrace polyethylene water storage tank ISI : 12701 MARKED indicating the BIS license No with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	Ltrs	5000.0			
1.23	Supply, erection, testing & commissioning of exit glow sign board of size 200mm x 350 mm wall mounting signage consisting of photo luminescent coating on acrylic cover	Each	6.0			
1.24	Providing and fixing fire extinguisher of carbon dioxide type consisting of brand new high pressure steel cylinder bearing IS: 7285 mark and having the approval of controller of explosives Nagpur, wheel type valve bearing IS:3224 mark internal discharge tube, 1 meter long high pressure discharge hose, non conducting horn, suspension bracket, fully charged bearing IS: making fixed to wall as directed.					
a)	4.5kg capacity cylinder	Each	5.0			

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1	2	3	4	5	6	7
1.25	Providing and fixing 9 liters capacity fire extinguisher water type gas pressure conforming to IS marking, fixed to wall.	Each	5.0			
1.26	Providing and fixing ABC type fire extinguishers complete in all respects.					
a)	Capacity 5.0 Kg.	Each	5.0			
1.27	Providing and fixing ABC type automatic modular ceiling mounted type extinguisher with body powder coated 10 lts. Capacity min. 300 mm dia 68 degree centigrade bul temperature complete in all respect of approved make and model	Each	1.0			
1.28	Fabricating, Supplying, Installation, Testing and Commissioning Air Vessel of continuous welded construction with flanged discharge header in pump house fabricated out of 10 mm thick dished ends and 8 mm thick MS sheet, Air Release Valve, complete with drain arrangement with 25 mm dia gun metal wheel valve complete with all accessories etc. as required of the following sizes					
a)	2 Metre high and 450 mm dia suitable to operate Jockey Pump, Main Fire Pump & Diesel Engine Driven Fire Pump	Each	1.0			
1.29	Providing and fixing C.I. non-return valve complete with gunmetal seat, bolts, nuts washer & rubber insertions as required conforming to IS:5312.					
a)	150 mm dia	Each	4.0			
b)	80 mm dia	Each	4.0			

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1	2	3	4	5	6	7
1.30	Supplying, installing, testing and commissioning of electric driven fire pump suitable for automatic operation consisting of the following (as per CPWD specification Part V-1985 for Fire Fighting and its amendments) (For Hydrant system & Sprinkler system).					
a)	Fire pump with stainless steel impeller, CI casing, SS shaft & mechanical seal shall be horizontal split casing centrifugal suction type multistage having following capacity and head so as to ensure a minimum pressure of 3.0 kg per square cm. at the highest and farthest out let at the specified flow complete with necessary strainer / foot valve suction side and pressure gauge on the delivery side including by pass arrangement for periodical testing of the working of the pumping set as required. The pump shall be provided with mechanical seals.					
b)	Squirrel cage type TEFC motor suitable for operation on 415V, 10%, 3 phases 50 Hz. system of suitable HP for the above pump with synchronous speed of 1500 RPM and flexible coupling. The pump motor should conform to IS: 325-1978.					
c)	Common bed plate fabricated from mild steel channel or cast iron type.					
d)	Suitable cement concrete pump foundation & vibration damping arrangement with cushy foot mounting as required.					
l)	Capacity 2280 LPM and Head 50 Metres	Each	1.0			

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1	2	3	4	5	6	7
1.31	Supplying, installing, testing and commissioning of diesel engine driven fire pump suitable for automatic operation consisting of the following (as per CPWD specifications PartV 1985.) (For Hydrant system & Sprinkler system).					
a)	Horizontal centrifugal type multi-stage, fire pump with stainless steel impeller CI casing, SS shaft & mechanical seal complete of following capacity and Head so as to ensure a minimum pressure of 3.0 kg per sq.cm. at the highest & farthest outlet at the specified flow, complete with necessary strainer pressure gauge on the delivery side etc. including by pass arrangement for periodical testing of the working of the pump set as required. The pump shall be provided with mechanical seals.					
b)	Water cooled cold starting type multi cylinder 4 stroke diesel engine, developing suitable BHP at 1500 RPM for the above pump set with automatic starting mechanism, cooling system shall be with radial cool engine, maintenance free batteries, battery charge unit, flexible coupling with the pump, common bed plate for mounting diesel engine fuel day tank fuel piping and pump and vibration damping arrangement by cushy foot mounting as required complete in all respects.					
c)	The engine shall be capable to drive the pump at 150% rated discharge at 65% head and shall be suitable for 10% overload capacity for one hour in any period of 12 hrs. continuous run.					

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1	2	3	4	5	6	7
d)	Common bed plate fabricated from mild steel channel or cast iron type.					
e)	Isolation Valve					
f)	Suitable cement concrete pump foundation & vibration damping arrangement with cushy foot mounting as required.					
l)	Capacity 2280 LPM and Head 50 Metres	Each	1.0			
1.32	Supplying, installation, testing and periodic commissioning of electric motor driven automatic pressurization pump set consisting of the following (as per specification) (For Hydrant system & Sprinkler system).					
a)	Centrifugal pump of 180 LPM capacity capable of building up pressure lost in any leakage in the system against a total head (mentioned as under) complete with C.I. casing stainless steel impellor ; mechanical seal & S.S. shaft necessary strainer, pressure gauge on delivery side etc. including by-pass arrangement for testing of the working of the pumping set as required .					
b)	Squirrel cage A.C. induction motor suitable for operation on 415 V, 10% 3 phase 50 Hz. A.C. supply and of minimum 7.5 HP,1500 RPM, for the above pump with flexible coupling as per specification and conforming to IS: 325/ 1978 and shall be TEFC type only.					

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1	2	3	4	5	6	7
c)	Common bed plate fabricated from mild steel channel or cast iron type.					
d)	Suitable cement concrete pump foundation with vibration damping arrangement with cushy foot or similar mounting as per required.					
l)	Head - 50 Metres	Each	1.0			
1.33	Providing & fixing puddle flanged including 40 cm long GI pipe piece welded / threaded with MS plates 450x450x6mm thick with both end screwed / flanged					
a)	For 80 mm dia pipe	Each	4.0			
b)	for 150 mm dia pipe	Each	6.0			
c)	for 200 mm dia pipe	Each	2.0			
1.34	Supplying, installing, testing and commissioning of electric motor driven type automatic pressurisation, pump set suitable for automatic operation of terrace down comer and consisting of the following (as per CPWD specifications Part V-1985) for fire fighting and its amendmendts).					

Item No	Description Of Item	Unit	Total Qty.	Rate in figures (in Rs.)	Rate in words (in Rupees)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
a	Fire pump with stainless steel impeller CI casing, SS shaft shall be horizontal end suction centrifugally type having a capacity of 450 LPM against a total head of 25m so as to ensure a minimum pressure of 3.0 kg/sqm at the highest and farthest out at the specified flow complete with necessary strainer with foot valve in suction side and pressure gauge on the delivery side including bypass arrangement for periodic testing of the working of the pumping set as required. The pump shall be provided with mechanical seals.(Including taking necessary approval of complete fire fighting scheme from local fire authority before and after start of work) {Agency also has to submit characteristic curve of the pumps, model & other technical data for approval before placing the order}					
b	Squirrel cage AC induction motor suitable for operation of 415 V ,+/-10%, 3 phase 50 HZ, AC supply and of minimum 7.5 HP,1500 RPM for the above pump with flexible coupling as per specification and conforming to IS 325-1978 and shall be TEFC type only					
c	Common base plate fabricated from mild steel channel or cast iron type					
d	Star delta suitable starter complete in all respect for automatic/manual operation of pump, start and stop push button contactor with required overload protection and single phase preventor					
e	Suitable cement concrete pump foundation with vibration damping arrangement with cushiony foot mounting as required and having provision of suitable weather protection cover.	set	2.0			

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1	2	3	4	5	6	7
B	Fire Fighting PANEL(Electrical)					
2.00	FIRE PANEL					
	Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed,powder coated, free standing type, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles and having following incoming and outgoing switchgears complete as required.					
	INCOMER :					
	160 Amp 415 volts, 35 KA (Isc), FP MCCB with thermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	"ON" and "OFF" LED indicating lamp and 2A control SP MCBs					
	Push button for CLOSE and TRIP					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 no. 0 to 500 V Digital voltmeter with selector switch					
	1 to 0 to 160 Amps Digital ammeter with selector switch with one set of 160/5A C.T. s					
	BUSBARS :					
	250 Amp TPN busbars of aluminium					

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1	2	3	4	5	6	7
	OUTGOINGS :					
	1 Sets of following					
	1 No. 125 Amp. 415/500 volts,35 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 3 Phase, fully automatic star-delta starter, type - II of 45 HP with thermal overload relay, contactor, Timer, Push Buttons and Auto-manual selector switch etc complete as required.					
	Single Phase preventer					
	1 to 0 to 120 Amps Digital ammeter with selector switch with one set of 120/5A CT,s.					
	1 Set of phase indicating lamp with 2A SP control MCBs					
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.					
	4 Sets of following					
	1 No. 32 Amp. 415/500 volts,25 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					

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1	2	3	4	5	6	7
	1 No. 3 Phase, DOL starter type - II of 5 HP with thermal overload relay, contactor, Push Buttons and Switches etc complete as required.					
	Single Phase preventer					
	1 Set of phase indicating lamp with 2A SP control MCBs					
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.					
	1 Set of following (in a separate cubicle)					
	One no. Diesel engine auto starting kit with all necessary relay, controls, wiring etc to start 45 HP diesel engine when electrical driven fire pump fail to start including one no rectifier circuit, battery charger, batteries, DC Voltmeter, DC Ammeter etc. complete as required.					
	Fire Panel as mentioned above	Set	1.00			
	Sub Total					

PROJECT NAME: Animal House , IIIM Jammu

ABSTRACT OF COST

S.No	DESCRIPTION OF WORK		Amount in figures(in Rs.)
1	FIRE FIGHTING		
	Sub Total(Fire Fighting work)		

Total